

EXHIBIT A

CLEAN COPY OF PENDING CLAIMS
(NO CHANGES SINCE LAST AMENDMENT)

1. (Thrice Amended) A rotating asynchronous high voltage converter for connection of AC networks with equal or different frequencies, wherein the converter comprises a first stator connected to a first AC network with a first frequency f_1 , and a second stator connected to a second AC network with a second frequency f_2 , wherein the converter comprises a rotor which rotates in dependence of the first and second frequencies f_1 , f_2 , and wherein at least one of said stators includes at least one winding forming at least one uninterrupted turn, said winding including a current-carrying conductor and a magnetically permeable, electric field confining insulating covering surrounding the conductor, including an inner layer having semiconducting properties being in electrical contact with the conductor, an insulating layer surrounding the inner layer being in intimate contact therewith and an outer layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each layer forms a substantially equipotential surface.

2. (Twice Amended) The rotating asynchronous converter according to Claim 1, wherein at least one of said semiconducting layers has substantially equal thermal expansion coefficient as said solid insulation.

3. (Amended) The rotating asynchronous converter according to Claim 2, wherein the potential of the inner one of said layers is substantially equal to the potential of the conductor.

4. (Twice Amended) The rotating asynchronous converter according to claim 1, wherein the outer layer is arranged to form substantially an equipotential surface surrounding said conductor.

5. (Amended) The rotating asynchronous converter according to claim 4, wherein said outer layer is connected to a specific potential.
6. (Amended) The rotating asynchronous converter according to Claim 5, wherein said specific potential is ground potential.
7. (Twice Amended) The rotating asynchronous converter according to claim 1, wherein said inner and outer layers have substantially equal thermal expansion coefficients.
8. (Twice Amended) The rotating asynchronous converter according to claim 1, wherein said current-carrying conductor comprises at least one of a plurality of insulated conductive elements and at least one uninsulated conductive element.
9. (Twice Amended) The rotating asynchronous converter according to claim 1, wherein each of said inner and outer layers is fixedly connected to the adjacent layer of solid insulation along substantially the whole of a connecting surface therebetween.
12. (Twice Amended) The rotating asynchronous converter according to Claim 11, wherein the winding comprises a cable having a diameter comprised in the approximate interval 20-250 mm and a conductor area comprised in the approximate interval 80-3000 mm².
13. (Twice Amended) The rotating asynchronous converter according to claim 1, wherein said rotor comprises two electrically and mechanically connected rotors, which are concentrically arranged in respect of said stators.

14. (Twice Amended) The rotating asynchronous converter according to Claim 13, wherein said converter further comprises an auxiliary device connected to said rotors for starting up the rotors to a suitable rotation speed before connection of said converter.

15. (Twice Amended) The rotating asynchronous converter according to Claim 14, wherein each of said rotors comprises a low voltage winding, and wherein said rotors are rotatable with the frequency $(f_1 - f_2)/2$ and the stator has a current with a frequency $(f_1 + f_2)/2$ when said converter is in operation.

16. (Twice Amended) The rotating asynchronous converter according to claim 1 wherein said rotor comprises a single rotor concentrically arranged in respect of said stators.

17. (Twice Amended) The rotating asynchronous converter according to Claim 16, wherein said rotor comprises a first loop of cable and a second loop of cable, wherein said loops of cable are connected to each other and are arranged opposite each other on said rotor and separated by two sectors, wherein each sector has an angular width of α .

18. (Twice Amended) The rotating asynchronous converter according to Claim 17, wherein said converter further comprises an auxiliary device connected to said rotor for starting up the rotor to a suitable rotational speed before connection of said converter, and said rotor is rotatable with the frequency $f_R = \frac{\pi - \alpha}{\pi} \cdot \frac{\Delta f}{4}$, wherein $\Delta f = |f_1 - f_2|$.

19. (Thrice Amended) A rotating asynchronous converter for connection of AC networks with equal or different frequencies, wherein the converter comprises a first stator for connection to a first AC network with a first frequency f_1 , and a second stator for connection to a second AC network with a second frequency f_2 , rotor means rotatable in dependence of the first and second frequencies f_1 , f_2 , and each stator includes at least one winding forming at least one uninterrupted turn, said winding comprising at least one current-carrying conductor, and a magnetically permeable, electric field confining insulation system surrounding the conductor, including an inner layer having semiconducting properties being in electrical contact with the conductor, an insulating layer surrounding the inner layer being in intimate contact therewith, and an outer layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each layer forms a substantially equipotential surface, which permits a voltage level in said rotating asynchronous converter exceeding 36 kV.

20. (Thrice Amended) A generator device operable with variable rotational speed, wherein the generator device comprises a stator for connection to an AC network with a frequency f_2 , a first cylindrical rotor for connection to a turbine, rotatable at a frequency f_1 , wherein said generator device comprises rotor means being rotatable in dependence of the frequencies f_1 , f_2 , and said stator and said first cylindrical rotor each includes at least one winding forming at least one uninterrupted turn, said winding comprising at least one current-carrying conductor, and a magnetically permeable, electric field confining insulation system, including an inner layer having semiconducting properties being in electrical contact with the conductor, an insulating layer surrounding the inner layer being in intimate contact therewith and an outer layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each layer forms a substantially equipotential surface surrounding the conductor.

21. (Amended) The generator device according to Claim 20, wherein at least one of said semiconducting layers has substantially equal thermal expansion coefficient as said solid insulation.

22. (Twice Amended) The generator device according to Claim 21, wherein the inner layer has a potential substantially equal to a potential of the conductor.

23. (Twice Amended) The generator device according to claim 21, wherein the outer one of said layers is arranged to form substantially an equipotential surface surrounding said conductor.

24. (Amended) The generator device according to Claim 23, wherein said outer layer is connected to a specific potential.

25. (Amended) The generator device according to Claim 24, wherein said specific potential is ground potential.

26. (Twice Amended) The generator device according to claim 20, wherein at least two of said layers have substantially equal thermal expansion coefficients.

27. (Twice Amended) The generator device according to claim 20, wherein said current-carrying conductor comprises at least one of a plurality of insulated conductive elements and at least one uninsulated element being in electrical contact with the covering.

28. (Twice Amended) The generator device according to claim 20, wherein each of said two layers and said solid insulation is connected to adjacent layer or solid insulation along substantially the whole connecting surface.

29. (Thrice Amended) A generator device with variable rotational speed comprising a stator for connection to an AC network with a frequency f_2 , a first cylindrical rotor for connection to a turbine, being rotatable with a frequency f_1 , wherein said generator device comprises rotor means being rotatable in dependence of the frequencies f_1 , f_2 , and said stator and said first cylindrical rotor each comprises at least one winding, forming at least one uninterrupted turn, wherein each winding comprises a cable including at least one current-carrying conductor,

each conductor comprises a number of conductive elements,

an inner semiconducting layer surrounding the conductor and being in electrical contact therewith,

an insulating layer of solid insulation surrounding the inner layer and being in intimate contact therewith, and

an outermost layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each inner and outermost layer forms a substantially equipotential surface surrounding the conductor.

31. (Twice Amended) The generator device according to Claim 29, wherein the cable has a diameter of about 20-250 mm and a conductor area is about 80-3000 mm².

32. (Twice Amended) The generator device according to claim 29, wherein said rotor means comprises two electrically and mechanically connected hollow rotors arranged concentrically around said stator and said cylindrical rotor.

33. (Twice Amended) The generator device according to Claim 32, wherein each of said rotors comprises a low voltage winding, and said rotor is rotatable at a frequency $(f_1 - f_2)/2$ when said generator device is in operation.

34. (Amended) The generator device according to Claim 33, wherein said stator has a cylindrical shape.

35. (Amended) The generator device according to claim 29, wherein said rotor means comprises a first rotor and a second rotor, which rotors are electrically and mechanically connected, wherein said first rotor is hollow and arranged concentrically around said first cylindrical rotor, and said second rotor is cylindrical.

36. (Twice Amended) The generator device according to Claim 35, wherein said first and second rotors of said rotor means each comprises a low voltage winding, and wherein said first and second rotors are rotatable at a frequency $(f_1 - f_2)/2$ when said generator device is in operation.

37. (Amended) The generator device according to Claim 36, wherein said stator is hollow and arranged around said second rotor.

38. (Amended) The use of a rotating asynchronous converter in accordance with claim 1 for connection of non-synchronous three phase networks with equal rating frequencies.

39. (Amended) The use of a rotating asynchronous converter in accordance with claim 1 for connection of three phase networks with different frequencies.

40. (Amended) The use of a rotating asynchronous converter in accordance with claim 1 as a series compensation in long distance AC transmission.

41. (Amended) The use of a rotating asynchronous converter in accordance with claim 1 for reactive power compensation.

42. (Thrice Amended) A rotating asynchronous converter employing a high voltage electric machine comprising a stator, a rotor and a winding comprising a cable including at least one current-carrying conductor and a magnetically permeable, electric field confining cover surrounding the conductor and being in electrical contact therewith, said conductor including a plurality of insulated conductive strands and at least one uninsulated conductive strand in contact with the cover, said cable forming at least one uninterrupted turn in the corresponding winding of said machine, and wherein said cable includes

an inner semiconducting layer surrounding the conductor, and being in electrical contact therewith,

an outermost layer of solid insulation surrounding the inner layer and being in intimate contact therewith, and

an outermost layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each inner and outermost layer forms a substantially equipotential surface surrounding the conductor.

43. (Amended) The converter of claim 42, wherein the cover comprises an insulating layer surrounding the conductor and an outermost layer surrounding the insulating layer, said outermost layer having a conductivity sufficient to establish an equipotential surface around the conductor.

44. (Amended) The converter of claim 42, wherein the cover comprises an inner layer surrounding the conductor and being in electrical contact therewith; an insulating layer surrounding the inner layer and an outermost layer surrounding the insulating layer.

45. (Amended) The converter of claim 44, wherein the inner and outermost layers have semiconducting properties.

46. The converter of claim 42, wherein the cover is formed of a plurality of layers

including an insulating layer and wherein said plurality of layers are substantially void free.

47. The converter of claim 42, wherein the cover is in electrical contact with the conductor.

48. The converter of claim 47, wherein the layers of the cover have substantially the same temperature coefficient of expansion.

49. The converter of claim 42, wherein the machine is operable at 100% overload for two hours.

50. (Amended) The converter of claim 42, wherein the winding is operable free of sensible end winding loss.

51. The converter of claim 42, wherein the winding is operable free of partial discharge and field control.

52. The converter of claim 42, wherein the winding comprises multiple uninterrupted turns.

54. The converter of claim 42, wherein the cable is flexible.

55. (Twice Amended) A rotating asynchronous converter for connection of AC networks with equal or different frequencies, wherein the converter comprises a first stator connected to a first AC network with a first frequency f_1 , and a second stator connected to a second AC network with a second frequency f_2 , wherein the converter further comprises rotor means which rotates in dependence of said first and second frequencies f_1 , f_2 , said stators each comprise at least one winding, wherein each winding comprise a cable including at least one current-carrying conductor, and an electric field confining, solid insulation covering surrounding the conductor, said conductor including at least one of a plurality of insulated conductive elements and at least one uninsulated conductive element in contact with the cover said cable comprising

an inner semiconducting layer surrounding the conductor, and being in electrical contact therewith

an insulating layer of solid insulation surrounding the inner layer and being in intimate contact therewith, and

an outermost layer having semiconducting properties surrounding the insulating layer and being in intimate contact therewith, wherein each inner and outermost layer forms a substantially equipotential surface surrounding the conductor.